Established in 2008

"बेटी बचाओ, बेटी पढ़ाओ"

Jayoti Vidyapeeth Women's University, Jaipur

NAAC Accredited | UGC Approved | Recognized by Statutory Councils

A STUDY OF CONSUMERS PREFERENCE AND PERCEPTION TOWARDS MILLET FOOD IN RAJASTHAN

Submitted by

MANISHA CHOUDHARY

Enrollment No :

JVR-II/22/11016

Under the Guidance of

DR. MINI AMIT ARRAWATIA

Department of Management and Commerce

Faculty of Law and Management

A Synopsis

Proposal Submitted in

fulfillment of the requirements for the award of the Degree of

DOCTOR OF PHILOSOPHY

(MANAGEMENT)

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Introduction

Millet, a group of small-seeded grains that have been cultivated for thousands of years, holds a significant place in the history and culture of Rajasthan, India. With its arid climate and diverse agricultural traditions, Rajasthan has long embraced the cultivation and consumption of millets such as bajra (pearl millet), jowar (sorghum), and ragi (finger millet). However, as dietary preferences evolve and lifestyles change, the consumption of millet-based foods in Rajasthan is facing transformation.

This research endeavor seeks to explore the intriguing dynamics of consumer preferences and perceptions regarding millet food in the context of Rajasthan. The resurgence of interest in millets on both a regional and global scale, primarily due to their impressive nutritional profiles and climate-resilient nature, warrants a comprehensive examination of how these grains are perceived and integrated into the diets of the people of Rajasthan.

Rajasthan, known for its rich culinary heritage and diverse food habits, presents a unique case study for understanding the interplay between tradition, health consciousness, availability, and the evolving food choices of its residents. In a world where health-consciousness and sustainability are increasingly significant factors in food choices, millets offer a compelling option, but their adoption may hinge on various cultural, economic, and awareness-related factors.

Rajasthan, being a diverse state with varied agro-climatic conditions, is home to several types of millets that have been integral to its traditional cuisine and agricultural practices. Here are some prominent millet varieties found in Rajasthan along with brief explanations:

1. **Pearl Millet (Bajra):**
   - Pearl millet, locally known as "bajra," is one of the most significant millets in Rajasthan.
   - It thrives in arid and semi-arid regions due to its drought-resistant nature.
   - Bajra is commonly used to make flatbreads (rotis) and porridge, and it's a staple in the Rajasthani diet.
2. **Finger Millet (Ragi):**
   - Finger millet, known as "ragi," is cultivated in parts of Rajasthan.
   - It is known for its high nutritional content, particularly calcium and iron.
   - Ragi is often used to prepare nutritious dishes like ragi malt and rotis.
3. **Foxtail Millet (Kangni):**
   - Foxtail millet, or "kangni" in local terms, is cultivated in Rajasthan's arid and semi-arid regions.
   - It has a mild, nutty flavor and is used in various traditional dishes, including upma and khichdi.

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4. **Little Millet (Kutki):**
   - Little millet, known as "kutki," is grown in Rajasthan, especially in the eastern regions.
   - It has a mild flavor and is used to make porridge, pulao, and sweets.
5. **Proso Millet (Baragu):**
   - Proso millet, or "baragu," is grown in some parts of Rajasthan.
   - It is used in various dishes, ranging from savory to sweet, and is particularly popular during festivals.
6. **Kodo Millet (Kodra):**
   - Kodo millet, or "kodra," is cultivated in limited areas of Rajasthan.
   - It is used for preparing khichdi, porridge, and sometimes even sweets.
7. **Barnyard Millet (Sanwa):**
   - Barnyard millet, locally called "sanwa," is grown in Rajasthan's hilly regions.
   - It is used to make dishes like porridge, pulao, and khichdi.

These millet varieties have played a significant role in the traditional diets of Rajasthan, offering resilience against challenging climatic conditions and contributing to the nutritional diversity of the region. They are not only an integral part of the cuisine but also reflect the state's rich agricultural heritage.

This research aims to answer critical questions:

1. **Consumer Preferences**: What are the prevailing consumer preferences when it comes to millet-based foods in Rajasthan? Which millet varieties and dishes are favored, and why?
2. **Perceptions**: How do consumers perceive millet foods in terms of healthiness, taste, and cultural relevance? What factors influence these perceptions?
3. **Awareness**: Are consumers aware of the nutritional benefits and potential of millets? How do they come across information about millet-based foods?
4. **Barriers and Motivations**: What factors act as barriers to millet consumption in Rajasthan?

Conversely, what motivates individuals to incorporate millet-based foods into their diets?

5. **Future Prospects**: Are consumers open to exploring new millet-based products? If so, what types of products would be of interest to them, and how can these be made more appealing?

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By addressing these questions, this research aspires to shed light on the changing landscape of food preferences and the role of millets within it. The findings have the potential to inform policy makers, marketers, and food producers on strategies to promote millet consumption and integrate these nutritious grains more effectively into the diets of Rajasthan's residents. Furthermore, it addsto the growing body of knowledge on sustainable and health-conscious dietary choices, with the rich tapestry of Rajasthan serving as a captivating backdrop for this exploration.

Millets were among the first cultivated crops. Millets were consumed in the Indus-Sarasvati civilization, according to research (3,300 to 1300 BCE). Millets are the traditional grains consumed by half of the population of Asia and Africa. There are about 6,000 varieties of millet found across the world. Some of them are sorghum (jowar), pearl millet (bajra), finger millet (ragi or nachni), brown top (sama), kodu (arke), proso (chena/barr), barnyard (sanwa) and foxtail millet (kora). Millets are the most beneficial for health since they are gluten-free and are good for digestive system as well as protects us from heart diseases. Compared to the other grains, millets are easy to grow and do not take much of soil and is a rainfed crop. Millets don't require as much time and pampering as it is required for rice and wheat.

Millets are resilient grains that thrive in semi-arid environments, making them an ideal crop for locations where water management is a priority. Most cultivars provide more protein than rice and are higher in iron content than both rice and wheat. Despite India's long history of eating millets, consumption of pearl millet or bajra declined by 67% in urban regions and 59% in rural areas between 1972-1973 and 2004-2005. According to another research, jowar, bajra, maize, and ragi contributed 23% of Indians' grain requirements in 1983 but just 6% in 2011. In order to reverse the trend of decreasing millet consumption, India designated 2018 the National Year of Millets in order to encourage the production and consumption of millets or nutri-cereals. Millet's production climbed from 14.52 million tons in 2015-2016 to 17.96 million tons in 2020-21. The three millets, Jowar, Bajra, and Ragi, are known as neutral, and Brown top, Kodu, Proso, Barnyard, and Foxtail are the positive millets. These five millets are becoming more and more popular because of their incredibly beneficial to the digestive system and can heal chronic conditions like diabetes. Here are some of the reasons behind the millets gaining this much popularity are:

Several health advantages of consuming millets (Superfood) Millets are high in protein, fiber, essential vitamins, and minerals. They are renowned as a nutritional powerhouse. It aids with immunity, weight reduction, and overall health. Being high in nutrients such as dietary fiber, carbs, protein, and healthy fat, as well as minerals such as calcium, iron, manganese, zinc, potassium, and magnesium. Millets also aid in fitness and energy level maintenance because they offer a low-calorie content. Millets have also been shown to alleviate asthma, lessen migraines, and drain out toxins from our bodies, allowing our organs to work optimally.

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Governmental policies to promote millet consumption: On April 10, 2008, millets were rebranded as "Nutri Cereals," and 2018 was designated as the National Year of Millets. The worldwide millets market is expected to have a CARG of 4.5% between 2021 and 2016. The nodal agricultural ministry said in a statement that the center ministries, state governments, and Indian embassies have been allotted a dedicated month in 2023 to carry out various initiatives to promote IYM and raise awareness about the advantages of millets. The government has scheduled a number of millet-centric promotional events around the country as the International Year of Millets (IYM) begins, while also underlining that millets are a vital component of the G-20 conferences.Millets play an important role in strengthening farmers. Millets are one of the simplest crops to cultivate in the field. Because it is a rainfed crop, it does not require as many fertilizers or as much attention as wheat and rice do. Millets, was one of the earliest crops to be cultivated for nourishment. Millets are easy to plant and care for since they require less time to grow, fit a wide range of cropping systems, and have excellent adaptation to changing climatic and environmental conditions.

Millets are the future of agriculture. Its qualities are good for health, good for cultivation, and beneficial for farmers makes it a potential cultivation crop for agriculture. Since the groundwater of India has been declined by 61 percent between 2007 and 2017. Thus, it makes millet a perfect crop to be grown because of its low footprint of water and suitable climate requirements. Their potential to be a cash crop and the benefits derived from it can give millets the title of being a future food security of the world. Since millets are making a comeback due to is unique qualities for body as well as cultivation, it has now started to be known among the locals too. It has always been superior in nutrients and proteins and there are initiatives taken by the government in order to main millets a mainstream crop again. A balanced life can be achieved if the crop is included in our daily consumption.

Rajasthan, the "National Leader in Pearl Millets" is having largest area and highest production in the country under pearl millet. The State occupies about 46 lakh-hectare area with an average production of about 28 lakh tons and productivity of 400 kg per hectare. Increase in farmer's income and welfare and economic development of the state has always been a focus area of Rajasthan government. Rajasthan Agro-processing, Agri-business & Agri-export Promotion Policy, 2019 offers attractive incentives for millet value chain player.

In a bid to encourage millet production in the state, the Rajasthan government is taking various steps, including distribution of free seed mini kits of millets, to encourage farmers to take up the cultivation of these crops.

Under the scheme, over 830,000 mini kits of high-yielding millet seeds were distributed by the state government for Kharif 2022.

India ranks first globally in the production of millets and Rajasthan's share is 28.6 per cent in the entire country. Also, 36 per cent area is under millet cultivation in the state.

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Millets include pearl millet, sorghum, finger millet, kodo millet, proso millet, browntop millet, rajgira, common buckwheat, barnyard millet, foxtail millet and little millet.

These coarse grains have nutritious elements and are rich in protein, vitamin B and minerals. So, scientists believe that these millets should be included in food for complete nutrition.

The state also ranks first in the entire country in the production of bajra with a 41.7 per cent share. The government also launched the Rajasthan Millet Promotion Mission in 2022-23. It has made a provision of Rs 40 crore for setting up 100 primary processing units by farmers, entrepreneurs and voluntary organisations.

REVIEW OF LITERATURE

Adithya Girijavallabhan 1, Agna Shibu Mathew 2, Gayathri Rajeev 3, Sonia Thomas 4, Sonia Thomas 4 Dr. B. Premagowri 5(2022) More emphasis is being placed on production and consumption of millets in recent times for its health benefits and profit. The nutritional benefits of millets have brought millets to the centre stage as a major contributor to the nutritional security of the households. Present study has tried to understand the attitude and consumption pattern among female young adults. It was revealed that the respondents were aware of benefits of millet consumption and yet the respondents were not actually consuming millets regularly. To increase the consumption of millets, ease of availability should be made explicitly among the children and young adults.

Dr. A. Kalaiselvi Mrs. L.A.Razia FathimaMrs. M. ParameswariAwareness and Consumption of Millets by Women – A Study on Coimbatore cityIndia is endowed with hundreds of nutritious crops whose research and development is still poorly addressed; production of millets has numerous securities, such as securities of food, nutrition, fodder, fiber, health, livelihood and ecology and at the same time increase the development of vulnerable people. Millets are storehouse of dozens of nutrition in large quantity and long term consumptsion of millets may bring several health benefits of the people. Hence they can help resist malnutrition.

Madhumitha M, Kaviya S, Nandita R, Divya V, Pooja K Eancement and Innovation in Millet Consumption It is challenging to comprehend why millet is being rejected given the high-quality qualities described above. There have been very few attempts to research these beneficial but understudied plants in compared to the countless studies that have been done on wheat, rice, and maize.Despite the component\'s simplicity, many ignore it since they are drawn to sorghum and maize. In actual honesty, cultivating is taxing, which contributes to the plants\' lower produce. The reality is that millets have a great chance of supplying the world\'s growing population with the wholesome nourishment they need. The cultivation of such plant for a substantially longer period of time and at a significantly greater price demand commitment and the right techniques. Millets may also be made into quick items in the age of instant meals, such as instant millet pellets, millet drink, and millet snacks.

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1,*Padmalini, S., 2Rizwana, M., 2Mohanasundaram, T., 3Mustafizul, H. and 4Vetrivel S.C. Traditional food consumption in the modern era: assessing the millet consumption behaviour among south Indian urban women Communication remains the major inhibitor on various fronts starting from producers to consumers. Low market demand has forced farmers to reduce the production of millet reported by (Raj and Shanmugam, 2013) and on the other hand consumers' awareness and interest to adopt it as a staple is dismal due to a lack of knowledge and motivation to consume millets as daily meals. The social media platform is emerging as a major source of information dissemination increasing awareness about millet. There is a need to identify the right social media tools, customized communication messages and influencers such as opinion leaders, celebrities, chefs, and peers to develop the motivation to consume millet.

M. Umanath1*, R. Balasubramaniam2 and R. Paramasivam1Millets' Consumption Probability and Demand in India: An Application of Heckman Sample Selection Model(2018) More emphasis is being placed on production and consumption of millets in recent times for manyreasons. As climate change is going to impact food security through reduced yield of rice due to increase in temperature and increased frequency of flood / drought, future food security has to lean on millets which are more resilient to bio-physical stresses. Further, the nutritional benefits of millets has brought millets to the centre stage as a major contributor to the nutritional security of the households. This study has made an attempt to understand the factors affecting the demand for millets in rural and urban areas. The own price effects for all millets were negative indicating that the households are less likely to consume when own prices of these millet increases.

Kapil Kumar Yadav(2023) Millets Production and Consumption in India Millets are a type of grain that provides various health benefits to the body by containing vitamins and minerals.

Teena Rathore, Rakhi Singh, Dinkar B Kamble, Ashutosh Upadhyay Review on finger millet: Processing and value addition Presence of dietary fiber and polyphenols inside the fingermillet can offer various health advantages including anti-diabetic, hypocholesterolaemic, Prevention from dietassociated chronic diseases, antioxidant and antimicrobialeffects. Processing technologies can be applied to improvemicronutrients bioavailability and also for enhancing the dietsquality of finger millet. Consumption of Finger millet can beamplified through its proper processing and value additionfrom rural to urban area.Finger millet may be applicableformulations of different value-added food products possiblyattributed to its well-balanced protein profile and gluten freenature. This study along with raising the profitability of itscultivators also speeds up the income and employmentopportunities in rural area.

RESEARCH OBJECTIVES

1. To explore consumer preferences for millet-based foods in Rajasthan and understand the factors influencing these preferences.

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2. To analyze the perceptions of consumers regarding the healthiness, taste, and cultural significance of millet foods.
3. To assess the level of awareness among consumers about the nutritional benefits of millets and the sources of information.
4. To identify barriers that hinder the adoption of millet-based foods and motivations that encourage their consumption.
5. To provide insights and recommendations for promoting millet consumption in Rajasthan.

RESEARCH METHODOLOGY

1. **Literature Review:** I had Started by reviewing existing literature on millet consumption, consumer preferences, and cultural aspects related to food in Rajasthan. This had help me identify gaps and refine my research objectives.
2. **Research Design:**
   - **Survey Questionnaires:** Researcher will use structured questionnaires to gather quantitative data on consumer preferences, perceptions, and demographic information. The questionnaire should include Likert scale, multiple-choice, and ranking questions.
   - **In-depth Interviews:** Researcher will Conduct qualitative interviews with a smaller group of participants to explore deeper insights into their preferences, motivations, and cultural factors influencing millet food choices.
3. **Sampling:**
   - **Random Sampling:** Researcher will Use random sampling techniques to select participants from different regions within Rajasthan, considering urban and rural areas for a diverse representation.
4. **Data Collection:**
   - **Online Surveys:** I will use online survey platforms (e.g., Google Forms, SurveyMonkey) to reach a larger audience. This is particularly effective for quantitative data collection.
5. **Data Analysis:**
   - **Quantitative Analysis:** I will use statistical tools like SPSS or Excel to analyze quantitative survey data. Perform descriptive statistics, correlations, and regression analyses to understand relationships between variables.
   - **Qualitative Analysis:** I will use thematic analysis to identify recurring themes and patterns in participants' responses.

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6. **Ethical Considerations:**
   - **Informed Consent:** I will nsure that participants provide informed consent before participating in the research. I will clearly explain the purpose, procedures, and use of data.
   - **Anonymity and Confidentiality:** I will assure participants that their responses will be kept confidential and anonymized in reporting.

Tools:

1. **Online Survey Platforms:**
   - Google Forms
   - Survey Monkey
   - Type form
2. **Statistical Analysis Software:**
   - SPSS (Statistical Package for the Social Sciences)
   - Excel (for basic statistical analysis)
3. **Qualitative Analysis Tools:**
   - NVivo
   - Dedoose
   - MAXQDA
4. **Communication Tools for Interviews:**
   - Zoom
   - Microsoft Teams
5. **Note-taking and Transcription Tools:**
   - Microsoft Word
   - Transcription software like Express Scribe
6. **Geographical Information System (GIS) Tools:**
   - I will use GIS tools to map participants' locations and analyze any geographical patterns in preferences.
7. **Cultural Research Tools:**
   - Anthropological tools for understanding cultural contexts and nuances, which could contribute to interpreting preferences.
8. **Statistical Techniques:**
   - Regression analysis to identify factors influencing consumer preferences.

By combining quantitative and qualitative approaches, using appropriate tools, and ensuring ethical considerations, I can gather comprehensive insights into consumer

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preferences for millet food in Rajasthan, understanding the cultural, economic, and individual factors that shape these preferences.

Data Collection

1. **Primary Data Collection:**

Primary data will be collected with the help of sample survey method -using my two questionnaire forms for different respondant.

- The collection of data by using this approach will be less time consuming as being researcher I will share the questionnaire through email also. It is important to note that the use of the questionnaire method will increase the reliability and validity of the outcomes of the research.

2. **Secondary Data:** I will also use secondary data with the help of following documents:

- Government Reports
- Market Research Reports
- Culinary and Food Blogs
- Social Media and Online Discussions
- Academic Research
- Non-Governmental Organizations (NGOs)
- Newspapers and Magazines

3. **Field Observations:**

- **Local Markets and Grocery Stores:** I will visit local markets and grocery stores in different regions of Rajasthan to observe the availability and variety of millet-based products.
- **Cooking Workshops and Food Events:** I will attend cooking workshops, food festivals, and events related to millet foods in Rajasthan.

4. **Expert Interviews:**

- **Nutritionists and Dietitians:** I will interview professionals in the field of nutrition and dietetics to gather expert opinions on the nutritional aspects of millet foods and their potential health benefits.
- **Chefs and Culinary Experts:** I will speak to chefs who specialize in Rajasthani cuisine to gain insights into how millet foods are prepared, presented, and received by consumers.

Sample Size &Technique

↔ **Sample Planning:** In the present study, the researcher will select the Millet consumption available in 10 cities of Rajasthan as its Universe / population. It is not convenient to study each and every units within limited time period. Rajasthan will be divided in 10-cities, such as Jaipur, Jodhpur, Kota, Bikaner, Ajmer Udaipur, Nagore, Bharatpur, Udaipur and Jaislmer.Samples will be selected by using non-probability simple random sampling method, stratified random sampling method and systematic random sampling method.

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From the above mentioned each district, the researcher will select 10 types of Millets from each district for its study. Thus total 100 outlets will be studied .

- ❒ **Sample Size:** Sample size for the present research work will be 1000. It will be divided equally among 10 district, i.e. 1000 each, and will divided into the 10 difference district of Rajasthan State by 1000 respondents (consumer) from each district.
- ❒ **Sample unit:** The researcher will select the unit for their research work is divided into ten types Millets brands.

1. Pearl Millet,	2. Sorghum,	3. Finger Millet,
4. Kodo Millet,	5. Proso Millet,	6. Browntop Millet,
7. Rajgira,	8. Common Buckwheat,	9. Barnyard Millet,
10. Foxtail Millet		

↔ **Analyses and interpretation of data:**

Keeping in view the objectives of the study, the data collected through the multiple-choice and open-ended questionnaire will be classified and tabulated. Data in the tables will be analyzed and interpreted with the help of statistical techniques. The statistical analysis of the collected information will be presented in terms of frequency, percentage and average.

The researcher will do bi–variate data analysis and tabulate the data in cross tabulation to study the respondent's opinion about selected variables. The relationship between selected attributes/variables will be tested using statistical test named "Chi – Square Test'.

QUESTIONNAIRE

Dear Sir / Madam, I am working on a Research thesis titled "Astudy of consumer preference and perception towards millet food in Rajasthan" from Jayoti Vidyapeeth Women's University, Jaipur.

I will be grateful to you, if you can spare your valuable time and indicate your responses. My thesis for the Doctoral degree will be based on the valuable information provided by you.

Your co-operation in this regards is solicited. The information that you will provide me, be used purely for academic research purpose and will be kept confidential. If you desire, I will provide a copy of your response, for your reference. Thanking you in anticipation.

Questionnaire 1: Multiple-Choice and Likert Scale

Introduction: Thank you for taking the time to participate in our survey on consumer preferences and perceptions towards millet food in Rajasthan. Your input is valuable in understanding the opinions of consumers in the region.

Section 1: Demographic Information

1. Age:

- Under 18

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- 18-24
- 25-34
- 35-44
- 45-54
- 55 and above

2. Gender:

- Male
- Female
- Other (please specify)

3. Location in Rajasthan (City or District):

Section 2: Millet Consumption

4. Have you ever consumed millet-based products?

- Yes
- No

5. How often do you consume millet-based products?

- Daily
- Weekly
- Monthly
- Rarely
- Never

6. Which millet-based products do you prefer? (Select all that apply)

- Bajra Roti
- Jowar Bhakri
- Millet Porridge
- Millet Idli/Dosa
- Millet Upma
- Millet Snacks
- Other (please specify)

7. Rate the healthiness of millet-based foods on a scale of 1 to 5 (1 being "Not Healthy" and 5 being "Very Healthy").

Section 3: Perception and Awareness

8. Are you aware of the nutritional benefits of millets?

- Yes
- No

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9. How did you learn about millet-based foods? (Select all that apply)

- Television
- Social media
- Print media
- Local events
- Word of mouth
- Other (please specify)

10.Do you think millet foods are a part of traditional Rajasthani cuisine?

- Yes
- No
- Not sure

Section 4: Barriers and Motivations

11. What factors discourage you from consuming millet-based products? (Select all that apply)

- Lack of availability
- Price
- Lack of awareness about cooking methods
- Taste preferences
- Cultural reasons
- Other (please specify)

12. What motivates you to consume millet-based products? (Select all that apply)

- Health benefits
- Taste
- Cultural reasons
- Dietary preferences
- Other (please specify)

Section 5: Future Interest

13. Would you be open to trying new millet-based products?

- Yes
- No
- Maybe

14. If yes, what types of new millet-based products would you be interested in?

Section 6: Additional Comments

15. Is there anything else you'd like to share about your experiences or opinions regarding millet food in Rajasthan?

Thank you for participating in our survey! Your feedback is highly appreciated

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Questionnaire 2: Open-Ended and Qualitative

Introduction: Welcome to our survey on consumer preferences and perceptions towards millet food in Rajasthan. Your insights are crucial in helping us understand the unique perspectives of consumers in the region.

Section 1: Personal Information

1. Please share a bit about yourself, including your age, gender, and location in Rajasthan.

Section 2: Experience with Millet Foods

2. Have you ever tried millet-based foods? If yes, please describe your experiences. If no, please explain why.3. How frequently do you consume millet-based products? What are your favorite millet dishes and why?

Section 3: Perceptions and Awareness

4. What comes to your mind when you think about millet-based foods? Do you associate them with health, tradition, or something else?
5. Are you aware of the nutritional benefits of millets? If yes, please share what you know. If no, would you be interested in learning more?
6. Have you come across any promotions, advertisements, or campaigns related to millet consumption in Rajasthan? Please describe your experiences.

Section 4: Factors Influencing Consumption

7. What factors, if any, have deterred you from consuming millet foods? Are there any misconceptions or barriers you've encountered?
8. On the contrary, what factors motivate you to incorporate millet-based foods into your diet? Are there specific aspects that attract you to these foods?

Section 5: Future Considerations

9. Would you be open to exploring new millet-based products in the market? Why or why not?
10. If you're willing to try new millet products, what types of products would you be curious to try? How do you think these products could be made more appealing to consumers like you?

Section 6: Final Thoughts

11. Is there anything else you'd like to share about your preferences, experiences, or suggestions regarding millet food in Rajasthan?

Thank you for sharing your valuable insights with us. Your perspective is invaluable to our research.

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RESEARCH HYPOTHESIS

Statement of Hypothesis:

Hypothesis 1: Impact of millet-based foods in Rajasthan with their perceived health benefits

- **H0:** Consumer preference for millet-based foods in Rajasthan is not positively correlated with their perceived health benefits
- **H1:** Consumer preference for millet-based foods in Rajasthan is not positively correlated with their perceived health benefits

Hypothesis 2: cultural factors role in food choices.

- **H0:** The perception of millet-based foods as traditional and culturally significant is not positively associated with consumers' willingness to include these foods in their diets, suggesting that cultural factors play a role in food choices.
- **H1:** The perception of millet-based foods as traditional and culturally significant is positively associated with consumers' willingness to include these foods in their diets, suggesting that cultural factors play a role in food choices.

Hypothesis 3: Awareness of the nutritional value of millet-based foods leading to higher consumption rates.

- **H0:** Consumers who are not aware of the nutritional value of millets are more likely to have a favorable perception of millet-based foods, leading to higher consumption rates.
- **H1:** Consumers who are aware of the nutritional value of millets are more likely to have a favorable perception of millet-based foods, leading to higher consumption rates.

Hypothesis 4: The availability of a diverse range of millet-based products in local markets influences consumer preference

- **H0:** The availability of a diverse range of millet-based products in local markets does not positively influences consumer preference, indicating that accessibility drives choices.
- **H1:** The availability of a diverse range of millet-based products in local markets positively influences consumer preference, indicating that accessibility drives choices.

Hypotheses 5: millet-based foods is affordable and cost-effective compared to other dietary options

- **H1:** Consumer perception of millet-based foods not affordable and cost-effective compared to other dietary options positively affects preference and consumption rates.
- **H0:** Consumer perception of millet-based foods as affordable and cost-effective compared to other dietary options positively affects preference and consumption rates.

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Hypotheses 6: Influenced of peer recommendations on consumer preference for millet-based foods

- **H1:** Consumer preference for millet-based foods is not influenced by peer recommendations and social influence, highlighting the role of interpersonal communication in shaping choices.
- **H0:** Consumer preference for millet-based foods is influenced by peer recommendations and social influence, highlighting the role of interpersonal communication in shaping choices.

RESEARCH GAP

The proposed study will be subject to following limitations.

1. **Limited Studies on Regional Variations**: Many studies on millet consumption have a national or global focus, but there is a gap in understanding how consumer preferences for millet-based foods vary within different regions of Rajasthan. Research could delve into variations between urban and rural areas, as well as across different districts and communities within the state.
2. **Age and Generational Differences**: While some studies have touched on the influence of age on millet consumption, there's a research gap in understanding the specific preferences and perceptions of different age groups within Rajasthan. Investigating how generational differences affect millet food choices could provide valuable insights.
3. **Impact of Socioeconomic Factors**: Although socioeconomic factors are known to influence food choices, there's room for more research on how income, education, and occupation impact consumer preferences for millet-based foods in Rajasthan. Understanding the economic dynamics could help tailor marketing strategies.
4. **Cultural Significance and Traditions**: Millets have a rich cultural history in Rajasthan, yet there's a research gap in examining how cultural significance and traditions influence consumer choices. Exploring the role of cultural factors in shaping preferences could yield interesting findings.
5. **Consumer Awareness and Education**: Research on consumer awareness of the nutritional benefits of millets and their preparation methods is limited. Understanding the level of awareness and how it affects preferences can help design effective awareness campaigns.
6. **Market Accessibility and Availability**: Although the availability of millet-based products is recognized as a factor, there's a research gap in understanding the specific challenges related to market accessibility and availability of diverse millet products, especially in remote areas of Rajasthan.

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7. **Environmental and Sustainability Concerns**: Millets are often touted as environmentally friendly crops. However, there's limited research on how consumers in Rajasthan perceive the sustainability aspect of millet production and whether it influences their choices.

8. **Barriers to Millet Adoption**: While barriers to millet adoption have been identified in general, there's a need for research that focuses on Rajasthan-specific barriers. This might include factors like taste preferences, traditional culinary practices, or misinformation.

9. **Comparative Studies**: Comparative studies that evaluate the preferences and perceptions of millet-based foods in Rajasthan in comparison to other states or regions in India can help provide a broader perspective on regional variations.

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